Cisco MultiNet for OpenVMS

This chapter provides information on Cisco MultiNet for OpenVMS. The information is organized into the following sections:

- Product Overview
- Standard Features
- Product Numbers

Product Overview

Cisco MultiNet for OpenVMS is the fastest, most stable, easy-to-use TCP/IP solution for OpenVMS platforms. Cisco MultiNet offers a complete suite of TCP/IP applications and services that leverage existing OpenVMS resources. Applications such as file access and transfer, electronic mail, Web browsing, network, and transport services are all standard in Cisco MultiNet for OpenVMS.

Standard Features

Cisco MultiNet for OpenVMS includes the following features:

- Ability to run DECnet applications directly over TCP/IP

  DECnet applications can be run without change over TCP/IP. No coding changes are needed, and you still have access to the same applications that run on DECnet, while network administrators migrate to TCP/IP.

- Network File System (NFS) client and server

  NFS client and server are both provided to allow for file sharing. File systems on remote servers appear as attached to the local system. Users can access and share files and applications, and network administrators can maximize resource utilization (disk space in particular).

- Remote booting services including DHCP, BOOTP, and TFTP services

  Remote booting services include Dynamic Host Configuration Protocol (DHCP) server, BOOTP server, and TFTP server and client. Cisco MultiNet supports the DHCP server, which provides dynamic allocation of network addresses and

configuration parameters to DHCP client systems. The DHCP server also provides BOOTP services when active. TFTP is also provided and is typically used for booting diskless workstations and providing boot and font service for X windows terminals.

- Cluster-wide services

  Provides VMS cluster load-balancing for FTP, Telnet, and other TCP/IP Services as well as automatic fail-over for NFS services.

- Terminal emulation: TN5250, TN3270

  Many terminal types are supported in Cisco MultiNet for OpenVMS. Terminal emulation for IBM systems is fully supported with TN5250 for AS/400 systems and TN3270 for IBM 3278 systems.

- Security via Kerberos or token-based authentication with Cisco MultiNet Secure/IP

  Includes extensive security. In addition to leveraging existing OpenVMS security, Cisco MultiNet for OpenVMS includes support for Kerberos and optional support for token-based authentication with MultiNet Secure/IP. MultiNet Secure/IP provides secure Telnet and FTP login and supports various token-based authentication options such as Security Dynamics' SecurID card or PinPAD, CRYPTOCard's RB-1 Calculator Token, Digital Pathway's SecureNet Key Card, and Bellcore S/Key soft token.

- World Wide Web (WWW) browser

  For Internet connectivity, Cisco MultiNet for OpenVMS includes the enhanced Mosaic Web browser with a Motif-based interface.

- File Transfer Protocol (FTP) client and server

  File transfers to and from remote systems are supported with the FTP client and server application. Additionally, Cisco MultiNet for OpenVMS supports TFTP.

- Mail services

  A variety of mail interfaces, such as VMS Mail and All-IN-1, are supported to provide maximum flexibility. In addition, industry-standard protocols such as Post Office Protocol (POP)2/3 servers and Simple Mail Transfer Protocol (SMTP) are supported. Users can choose the mail application that best suits their needs.

- Network printing—Line printer command and line printer daemon (LPR/LPD), and PC Network File System (PCNFS)

  Supports the standard LPD, LPR, and PCNFS remote printing services. The LPD server makes OpenVMS print queues available to remote systems, using the Berkeley LPD protocol. System managers can restrict which clients get access and can configure how to map LPD control requests into print parameters. Standard OpenVMS queue commands are used to create, delete, and manipulate jobs.

  Additionally, MultiNet supports stream printing, which enables print queues to send jobs directly over TCP/IP networked printers and printers connected to TCP/IP terminal servers.

- VMSINSTAL is used to load all applications

  Cisco MultiNet for OpenVMS installs quickly and easily using the VMSINSTAL utility. Cisco MultiNet provides a consolidated installation procedure allowing you to install MultiNet as well as its optional layered products at the same time.

- Menu-driven configuration utility

  Allows you to configure and manage all of Cisco's MultiNet services and applications. Additionally, these services can be configured and managed using standard OpenVMS style interfaces with DCL commands.

- Network management tools

  A full set of network management tools makes troubleshooting easy for network managers. Included are: an SNMP agent, DHCP server, TCPDump (packet trace utility), TCPview, traceroute, ping, check, and X11 debug.

- X Windows and DECWindows support

  DECWindows and X Windows, an X Transport Gateway, X Display Manager, X font services, and diagnostics are provided.

- Application Programming Interfaces (APIs)

  With the wide support for different APIs, you have the option of building customized products on top of Cisco MultiNet for OpenVMS. Included are: Socket library (4.3 BSD), DEC C/VAX C Socket Library, MultiNet/SRI $QIO interface, EXOS $QIO interface, UCX $QIO interface, ONC/RPC interface, DECrpc, and DCE for OpenVMS support.

- Remote connectivity via Serial Line Internet Protocol (SLIP), Compressed Serial Link Internet Protocol (CSLIP), or Point-to-Point Protocol (PPP)

- Full Range of network devices supported

  — Any DEC Ethernet adapter supported by OpenVMS

  — Any DEC FDDI adapter supported by OpenVMS

  — Any DEC Token Ring adapter supported by OpenVMS

  — VCI (Virtual Communication Interface)

  — SLIP (Serial Line IP)/CSLIP (Compressed SLIP) over directly connected asynchronous terminal adapters. SLIP and CSLIP are not supported over LAT terminal devices.

  — PPP (Point-to-Point Protocol) over directly connected asynchronous terminal adapters. PPP is not supported over LAT terminal devices.

  — IP over X.25 via VAX PSI

  — IP over DECnet

  Full packet forwarding (routing) is supported for configurations with multiple interfaces.

Benefits

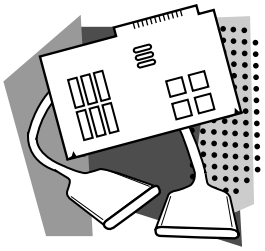
Cisco MultiNet for OpenVMS has been designed specifically for the demands of the enterprise network. With the highest levels of performance and reliability available, network managers look to Cisco MultiNet for OpenVMS for a risk-free TCP/IP solution. The complete functionality provided means network administrators have a single solution for all their OpenVMS needs.

Table 286 Cisco MultiNet for OpenVMS Summary of Features

Characteristic	Description
Full function TCP/IP member	Allows OpenVMS systems access to any TCP/IP system on the intranet and Internet.
Instantaneous access to information on the Internet	Quick access to host systems; fast file transfers increase productivity and decrease user frustration.
High reliability	Eases burden on network administrators and minimizes troubleshooting and downtime.
Easy to use and manage	Easy to install and configure with menu-driven configuration utility. Complete set of network diagnostic tools makes it simple to manage.
Ability to run DECnet applications over TCP/IP	Allows network managers to migrate to TCP/IP easily, without recoding or disruption to DECnet users.

Prerequisite Software

Cisco MultiNet for OpenVMS requires VAX/VMS V5.0 or later, OpenVMS VAX 6.0 or later, or OpenVMS Alpha V1.5 or later. Message Router V3.1 or later is required for Simple Mail Transfer Protocol (SMTP) to ALL-IN-1 gateway capability. MultiNet enhanced Mosaic requires DEC Windows/Motif V1.2 and OpenVMS VAX 6.0 or Alpha V6.1 or later.



Product Numbers

Cisco MultiNet for OpenVMS includes one CD-ROM and online documentation. Optionally, TK50 and 9-track tapes can be ordered. Online documentation includes the full set of MultiNet documentation in Postscript and BookReader format. For hard-copy documentation product numbers, refer to the “Internet Products” section in the “Documentation” chapter, later in this catalog. Licenses for Cisco MultiNet for OpenVMS are based on system type or class. Table 287 through Table 295 list the traditional license product number followed by upgrade part numbers associated with that class. Table 296 and Table 297 list Cisco MultiNet for OpenVMS site license bundled packages; Table 296 lists product numbers for the full product site license bundle; and Table 297 lists product numbers for the run-time site license bundle.

Table 287 Cisco MultiNet for OpenVMS: Entry Level VAX

Description	Product Number
Cisco MultiNet for OpenVMS, class 1 VAX (entry)	MN-VAX-NTRY
VAX Upgrade of Cisco MultiNet for VMS entry to workgroup	MN-VAX-UPG-1-2
VAX Upgrade of Cisco MultiNet for VMS entry to department	MN-VAX-UPG-1-3
VAX Upgrade of Cisco MultiNet for VMS entry to enterprise 1	MN-VAX-UPG-1-4
VAX Upgrade of Cisco MultiNet for VMS entry to enterprise 2	MN-VAX-UPG-1-5

Table 288 Cisco MultiNet for OpenVMS: Workgroup Level VAX

Description	Product Number
Cisco MultiNet for OpenVMS, class 2 VAX (workgroup)	MN-VAX-WGP
VAX Upgrade of Cisco MultiNet for VMS workgroup to department	MN-VAX-UPG-2-3
VAX Upgrade of Cisco MultiNet for VMS workgroup to enterprise 1	MN-VAX-UPG-2-4
VAX Upgrade of Cisco MultiNet for VMS workgroup to enterprise 2	MN-VAX-UPG-2-5

Table 289 Cisco MultiNet for OpenVMS: Departmental Level VAX

Description	Product Number
Cisco MultiNet for OpenVMS, class 3 VAX (departmental)	MN-VAX-DEPT
VAX Upgrade of Cisco MultiNet for VMS department to enterprise 1	MN-VAX-UPG-3-4
VAX Upgrade of Cisco MultiNet for VMS department to enterprise 2	MN-VAX-UPG-3-5

Table 290 Cisco MultiNet for OpenVMS: Enterprise 1 Level VAX

Description	Product Number
Cisco MultiNet for OpenVMS, class 4 VAX (enterprise 1)	MN-VAX-ENT1
VAX Upgrade of Cisco MultiNet for VMS enterprise 1 to enterprise 2	MN-VAX-UPG-4-5

Table 291 Cisco MultiNet for OpenVMS: Enterprise 2 Level VAX

Description	Product Number
Cisco MultiNet for OpenVMS, class 5 VAX (enterprise 2)	MN-VAX-ENT2

Table 292 Cisco MultiNet for OpenVMS: Entry Level Alpha (AXP)

Description	Product Number
Cisco MultiNet for OpenVMS, class 1 Alpha (entry)	MN-AXP-NTRY
AXP Upgrade of Cisco MultiNet for VMS entry to workgroup	MN-AXP-UPG-1-2
AXP Upgrade of Cisco MultiNet for VMS entry to department	MN-AXP-UPG-1-3
AXP Upgrade of Cisco MultiNet for VMS entry to enterprise 1	MN-AXP-UPG-1-4

Table 293 Cisco MultiNet for OpenVMS: Workgroup Level Alpha (AXP)

Description	Product Number
Cisco MultiNet for OpenVMS, class 2 Alpha (workgroup)	MN-AXP-WGP
AXP Upgrade of Cisco MultiNet for VMS workgroup to department	MN-AXP-UPG-2-3
AXP Upgrade of Cisco MultiNet for VMS workgroup to enterprise	MN-AXP-UPG-2-4

Table 294 Cisco MultiNet for OpenVMS: Departmental Level Alpha (AXP)

Description	Product Number
Cisco MultiNet for OpenVMS, class 3 Alpha (departmental)	MN-AXP-DEPT
AXP Upgrade of Cisco MultiNet for VMS department to enterprise	MN-AXP-UPG-3-4

Table 295 Cisco MultiNet for OpenVMS: Enterprise Level Alpha (AXP)

Description	Product Number
Cisco MultiNet for OpenVMS, class 4 Alpha (enterprise)	MN-AXP-ENT

Table 296 Cisco MultiNet for OpenVMS: Limited Site License

Description[1]	Product Number
Cisco MultiNet for OpenVMS, limited site up to 25 CPUs	MN-SITE-25
Cisco MultiNet for OpenVMS, limited site up to 50 CPUs	MN-SITE-50
Cisco MultiNet for OpenVMS, limited site up to 100 CPUs	MN-SITE-100
Cisco MultiNet for OpenVMS, limited site up to 250 CPUs	MN-SITE-250
Cisco MultiNet for OpenVMS, limited site up to 500 CPUs	MN-SITE-500
Cisco MultiNet for OpenVMS, limited site up to 1000 CPUs	MN-SITE-1000

1. These bundled packages can be either VAX or Alpha or mixed site, and they include the full product.

Table 297 Cisco MultiNet-RT for OpenVMS: Limited Site License

Description[1]	Product Number
Cisco MultiNet-RT for OpenVMS, limited site up to 25 CPUs	MNRT-SITE-25
Cisco MultiNet-RT for OpenVMS, limited site up to 50 CPUs	MNRT-SITE-50
Cisco MultiNet-RT for OpenVMS, limited site up to 100 CPUs	MNRT-SITE-100
Cisco MultiNet-RT for OpenVMS, limited site up to 250 CPUs	MNRT-SITE-250
Cisco MultiNet-RT for OpenVMS, limited site up to 500 CPUs	MNRT-SITE-500
Cisco MultiNet-RT for OpenVMS, limited site up to 1000 CPUs	MNRT-SITE-1000

1. These bundled packages include only run-time license (kernel and services).

Table 298 Cisco MultiNet for OpenVMS: Lateral Transfer or Downgrade between VAX and Alpha Platforms

Description	Product Number
Lateral transfer or downgrade of Cisco MultiNet VMS VAX to AXP	MN-VAX-AXP
Lateral transfer or downgrade of Cisco MultiNet VMS AXP to VAX	MN-AXP-VAX

Table 299 Cisco MultiNet for OpenVMS: Optional Products

Description	Product Number
VMS CD-ROM media	MN-VMS-CD
VMS TK50 media	MN-VMS-TK50
VMS 9-track media	MN-VMS-9T

Table 300 Cisco MultiNet for OpenVMS: Spare Products

Description	Product Number
Cisco MultiNet for OpenVMS evaluation kit	VMS-EVAL=
VMS CD-ROM media	MN-VMS-CD=
VMS TK50 media	MN-VMS-TK50=
VMS 9-track media	MN-VMS-9T=